

## **REMARKS**

Claims 1-32 are now pending in the application with claims 26-29 currently withdrawn as to a non-elected invention with traverse. Claims 15 and 21 have been amended to correct certain informalities and claim 30 has been amended to correct a typographical error. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

## **SPECIFICATION**

The specification stands objected to for the alleged informality that the language "...with (A), (B), and (C)" may render the claim indefinite. The Office Action alleges that it is unclear whether one, two, or all three groups are needed to cover the surface of the nanoparticles.

"(A), (B), and (C)" means that all three modifiers are used together to cover the surface of the nanoparticles. The plain language is indicative of an inclusive grouping, which is further supported in several places in the specification. Paragraphs [0040], [0075]-[0078], and [0127]-[0128]. Please also see the remarks contained within traversal of the rejection under 35 U.S.C. § 112 section below.

## **CLAIM OBJECTIONS**

Claims 15 and 21 are objected to because of language informalities in two recited groups. Applicant has amended the claims as per the Examiner's suggestions – amended claim 15 now recites "an oxygen atom, a carbonyl group," and amended claim 21 now recites "selected from main groups three to five, transition groups three to six, transition

groups one to two, and the lanthanoids.” Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objections.

**REJECTION UNDER 35 U.S.C. § 112**

Claims 1 and 12 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Regarding claim 1, the language “near-completely” is part of “covered completely or near-completely,” which is expressly defined in the detailed description to account for the various classes of modifiers. To wit,

“Covered completely or near-completely” means that the surface of the nanoparticles of the invention is covered to the extent allowed by the steric requirements of the individual modifying groups and that any reactive functional groups that may still be present on the surface of the nanoparticles of the invention are sterically shielded and so prevented from reactions with, say, polyisocyanates. (Paragraph [0039])

Accordingly, a skilled artisan would understand what is meant by “near-completely” in the claims in view of the written description.

Regarding claims 1 and 12, the language “with (A), (B), and (C)” is not indefinite in view of the original specification. Applicant respectfully traverses the objection since the original specification and claim language make clear that the present disclosure is using all three – (A), (B), and (C) – in covering nanoparticles completely or near-completely. First, the plain meaning of “(A), (B), and (C)” is an inclusive grouping, meaning that all members are present. This context is supported in paragraph [0040] where “[t]he surface of the nanoparticles of the invention are covered with at least three, in particular three, different classes of modifying groups” (i.e., the different classes being (A),

(B), and (C)). Second, the specification details embodiments of various ratios of (A):(B):(C) in covering particles, meaning all three are present. Paragraphs [0075]-[0078]. And third, embodiments are provided where particles are coated in various stages using each class of modifier. Paragraphs [0127]-[0128]. Reconsideration and withdrawal of the objection is respectfully requested.

#### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1-6, 9-12, 20, 22 and 30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lesniak et al. (WO 97/38058) (hereinafter Lesniak). This rejection is respectfully traversed.

The Lesniak reference allegedly discloses modifying groups described in the present disclosure as types (A) and (C). In contrast, the present disclosure as embodied in independent claim 1 is inclusive of modifying groups of types (A), (B), and (C) – all three are present. Thus, Lesniak cannot anticipate the present disclosure as the reference is missing disclosure of at least the modifying groups of type (B).

Furthermore, Lesniak does not teach the express hydrodynamic volume ( $V_H$ ) relationships between inert group (d) of modifying group type (B) and the inert spacer group (Ab) of modifying group type (A) of claim 1, nor the hydrodynamic volume relationship between modifying group types (C) and (A) of claim 1. As the reference fails to disclose all the features of independent claim 1, dependent claims 2-6, 9-12, 20, 22, and 30 are likewise not anticipated. Reconsideration and withdrawal of the rejection are respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1-3, 5, 8-12, 20-22 and 30 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Adams et al. (U.S. Pat. No. 6,649,138) with U.S. filing date of April 23, 2001 (hereinafter Adams). This rejection is respectfully traversed.

The Adams reference does not disclose nanoparticles whose surface has been modified with the three types of modifying groups – (A), (B), and (C) – as found in independent claim 1.

In particular, the Adams reference is at least missing modifying groups of type (C). Furthermore, Adams does not teach the express hydrodynamic volume relationships between inert group (d) of type (B) and the inert spacer group (Ab) of type (A) of claim 1, nor the hydrodynamic volume relationship between types (C) and (A) of claim 1. As the reference fails to disclose all the features of independent claim 1, dependent claims 2, 3, 5, 8-12, 20-22, and 30 are likewise not anticipated. Reconsideration and withdrawal of the rejection are respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 7-8, 13-19, 21, 23-25 and 31-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lesniak in view of Groth et al. (EP 0 872 500 A1) (hereinafter Groth). This rejection is respectfully traversed.

As described in traverse of the anticipation rejection based on Lesniak, the Lesniak reference allegedly provides disclosure of types (A) and (C) modifying groups. There is no description or even suggestion, appreciation, or motivation provided by Lesniak for including modifying groups of type (B). Addition of the Groth reference

simply provides coating crosslinkers, such as isocyanate-functional group crosslinkers and/or those activated by actinic radiation. Groth does not cure the absence of any mention of modifying group (B). The straightforward combination of the Lesniak and Groth references fails to provide at least the express features of modifying groups (B) of the present disclosure, as embodied in independent claim 1 and its corresponding dependent claims.

Furthermore, the combination of Lesniak and Groth fails to appreciate the express hydrodynamic volume ( $V_H$ ) relationships disclosed in the present invention. For example, in selecting Class (B) modifiers, the inert group (d) must have a smaller hydrodynamic volume  $V_H$  than the inert spacer group (Ab). Likewise, in selecting Class (C) modifiers, they must have a smaller hydrodynamic volume  $V_H$  than the Class (A) modifiers.

Finally, there is no appreciation, suggestion, or motivation provided to a skilled artisan from these references that would render the present disclosure obvious. A skilled artisan would not be motivated to use the particular combination of modifying groups, and in addition, nothing in these references would suggest to a skilled artisan how to relate the particular hydrodynamic volumes of these modifying groups, as embodied in claim 1. Thus, combination of these references cannot recreate the present invention. Therefore, claim 1 and its dependents 7, 8, 13-19, 21, 23-25, 31, and 32 are not obvious; reconsideration and withdrawal of the rejection is respectfully requested.

## **REJECTION UNDER 35 U.S.C. § 103**

Claims 4, 6-7, 13-19, 23-25 and 31-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Groth. This rejection is respectfully traversed.

As described in traverse of the anticipation rejection based on Adams, the Adams reference is missing modifying groups of type (C), whereas the present invention includes each of the types (A), (B), and (C). Adding the Groth reference does not cure the deficiency; Groth only provides crosslinkers for coatings. The straightforward combination of the Adams and Groth references fails to provide at least the express features of modifying groups (B) and (C) of the present disclosure, as embodied in independent claim 1 its corresponding dependent claims.

Furthermore, the combination of Adams and Groth fails to appreciate the express hydrodynamic volume relationships disclosed in the present invention. For example, in selecting Class (B) modifiers, the inert group (d) must have a smaller hydrodynamic volume  $V_H$  than the inert spacer group (Ab). Likewise, in selecting Class (C) modifiers, they must have a smaller hydrodynamic volume  $V_H$  than the Class (A) modifiers.

Finally, there is no appreciation, suggestion, or motivation provided to a skilled artisan from these references that would render the present disclosure obvious. The combination of these references cannot recreate the present invention as embodied in independent claim 1 and its dependents 4, 6, 7, 13-19, 23-25, 31, and 32, particularly in view of the aforementioned missing features. Accordingly, the present invention is not obvious and reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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